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FEDERAL COMMUNICATIONS COMMISSION
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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
Implementation of Sections of the Cable Television Consumer Protection and Competition Act of 1992 Rate Regulation	))))	MM Docket No. 92-266

COMMENTS OF GTE

GTE Service Corporation and
its affiliated domestic
telephone operating companies

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September 30, 1993

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SUMMARY

The Commission has reaffirmed that cable rate regulation for initial rates should be based on rates established by competitive cable systems. In the First Reconsideration Order the Commission also affirmed that price caps would be used to provide for ongoing rates regardless of whether they were determined through benchmark or cost-of-service showing. GTE proposed further modification in its comments submitted in the Cost-of Service NPRM by recommending adoption of a model which would use competitive firm prices as the external yardstick upon which regulated firms prices would be set.

In the instant proceeding, GTE addresses the three alternative methods of determining the price changes cable operators will be allowed when increasing or decreasing channels. GTE supports the adoption of option 1 with additional definition because it follows the benchmark/price cap approach and it is reflective of Long Run Marginal Cost. The allowed maximum increase in price or the minimum required decrease in price will be equal to the difference in the benchmark rates, adjusted for the annual change in the price cap index, calculated with the appropriate parameters for systems of "n" channels and "n+a" channels where "a" is the change in the number of channels offered.

GTE believes that cable operators should not be permitted to raise rates to the benchmark for systems upgrades completed prior to regulation. Given the presumption that the rate prior to regulation covered cost and using the GTE proposal that increases total rates by the Long Run Marginal Cost of each additional channel, the system operator has a reasonable means of recovering the costs of upgrade.

Finally, GTE finds that cable operators should be permitted to elect different options for each tier since cost-of-service regulation is only a backstop to benchmark/price cap regulation. Also that external cost treatment should be permitted

for cost of upgrades required by local franchise authorities to the degree they are outside the control of the cable operator.

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COMMENTS OF GTE

GTE Service Corporation and its affiliated domestic telephone companies ("GTE") offer their comments in response to the Commission's release on August 27, 1993 of its First Order on Reconsideration, Second Report and Order, and Third Notice of Proposed Rulemaking (hereafter "Third Notice") in this Docket.

I. Introduction

Cable rate regulation for initial rates has now been reaffirmed to be based on the rates established by competitive cable systems.[1] In the *First Reconsideration Order,* the Commission also affirmed that regardless of whether initial rates "were determined either through the benchmark or cost-of-service approaches. . .," price caps would be used to provide for ongoing rates.[2] GTE has proposed further modifications to the

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1 Implementation of the Cable Television Consumer Protection and Competition Act of 1992 - Rate Regulation, MM Docket No. 92-266, Report and Order and Further Notice of Proposed Rulemaking, FCC 93-177 (released May 3, 1993), 1993 FCC LEXIS 2417 ("*Rate Regulation Order*"), First Order on Reconsideration ("*First Reconsideration Order*"), Second Report and Order, and Third Notice of Proposed Rulemaking, FCC 93-428 (released August 27, 1993), *review pending sub nom. Columbia Associates, L.P. v. FCC,* No. 93-1409 (D.C. Cir., June 22, 1993) .

2 *First Reconsideration Order* at paragraph 87.

Commission's price cap model in its Comments in the *Cost-of-Service NPRM*[3] in response to the Commission's invitation to present evidence of the necessity for a productivity factor adjustment.[4] The GTE Competitive Price Cap Model provides "a price cap formula that includes both a productivity growth yardstick and an input price inflation yardstick that capture the power of the competitive marketplace . . . ensur[ing] prices are reasonable, encourag[ing] efficiency and new investment, and provid[ing] a reasonable opportunity to recover costs."[5]

In its comments herein, GTE will address the three alternative methods of determining the price changes cable operators will be allowed when increasing or decreasing channels using the GTE Competitive Price Cap Model to demonstrate that an appropriate price cap formula will meet the Commission's objectives. Such an approach continues to utilize benchmark pricing for initial rates and price caps for ongoing rate changes with cost-of-service as a backstop only.[6] Similarly, GTE will address the other items raised in the *Third NPRM*.

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3 Implementation of the Cable Television Consumer Protection and Competition Act of 1992 - Rate Regulation, MM Docket No. 93-215, Notice of Proposed Rulemaking, 58 F.R. 40761 (July 30, 1993) ("*Cost-of-Service NPRM*")

4 GTE at 18, *Cost-of-Service NPRM*.

5 *Id.*

6 This is consistent with the Commission's interpretation of Congressional intent to "place[ ] primary weight on rates of systems subject to effective competition" and "to consider the various rate regulation mechanisms employed – benchmarks, cost-of-service showings and price caps – not in isolation, but as part of a regulatory system . . ." incorporating the statutory factors enumerated. *First Reconsideration Order* at paragraph 12.

II. Changes in cable rates due to the addition or deletion of channels should be based on the benchmark/price cap scheme.

It would appear that the Commission is trying to design a cable rate regulation system for channel changes that permits recovery of costs and provides the proper incentives to add channels, yet avoids perverse incentives to shift to a la carte offerings or delete channels. The starting point for the Commission must first be the regulatory scheme it has adopted. Other proposals, including cost-of-service regulation, other than as a backstop, have already been rejected, the Commission having chosen price cap adjustments to initial rates tested against a competitively established benchmark. Any method to modify prices to reflect channel changes must be consistent with that same scheme if its benefits are to be realized.

The basic premise the Commission followed in selecting the competitive benchmark for initial rates was that the rates charged by competitive cable systems could serve as the basis for determining reasonable rates of systems subject to regulation. The Commission then determined that price cap regulation applied to those presumably reasonable rates was the best way to ensure reasonable rates on an ongoing basis.[7] Embodied in this foundation is the economic principle that prices should reflect Long Run Marginal Cost (LRMC), that is, the competitive market drives price toward LRMC and drives firms toward efficient behavior. In selection of a method to determine what rate change will be associated with changes in the number of channels, the Commission must take care to maintain the beneficial outcomes of its overall regulatory scheme including compensatory rates and incentives for efficient behavior.

The cornerstone to the Commission's regulation of cable systems is the benchmark, which, if done correctly, readily resolves most of the other concerns. As GTE has pointed out in its comments in the *Cost-of-Service NPRM*, the benchmark,

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7 *Rate Regulation Order* at paragraph 227.

while adequate for an initial rate determination, should be refined to take into account more cost causation factors.[8] This competitive benchmark, established as a price per channel, adjusted annually by the change in the price cap index, should serve to determine rate changes due to changes in channels. This appears to be the methodology the Commission describes as option 1, using the differential in benchmark rates given the system's size and new and old number of channels, added to the previously allowed rate. The Commission tentatively rejects this proposal over concern for pricing above observed economies of scale, lack of analytical support, uncertainty of its use in the case of channel deletions, and belief that it will result in higher rates than the other options.[9] However, the Commission was very generalized in its specification of the model and did not address implementation details such as adjustments for changes in the price cap. GTE supports this method in concept as following the benchmark/price cap approach and recommends the following specific process.

> The allowed maximum increase in price or the minimum required decrease in price will be equal to the difference in the benchmark rates, adjusted for the annual change in the price cap index, calculated with the appropriate parameters for systems of "n" channels and "n+a" channels where "a" is the change in the number of channels offered.

Contrary to the Commission's conclusions used to reject option 1, direct use of the benchmark rate per channel, GTE believes that formulated as described above: (1) it would account for scale economies because it is a long run measure and decreases as the total numbers of channels and subscribers increase; (2) there is both analytical and empirical support for the technique because the measure represents LRMC based upon behavior of the competitive market place; (3) the method is

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[8] GTE at 14, *Cost-of-Service NPRM.* GTE incorporates herein by reference its Comments and Reply in the *Cost of Service NPRM*, and attaches for the Commission's convenience the Appendix to its Comments, the Statement of Dr. Mark Schankerman.

[9] *Third NPRM* at paragraph 137.

appropriate for changes in either direction because it is a long run, not a short run, measure of marginal cost. Further, the Commission should not be concerned about selecting a method that appears to be most expedient in reducing rates. There is no actual evidence that this benchmark method would result in rates higher than those of the other options.

A simple straightforward illustration demonstrates why the method as defined by GTE is appropriate and meets the Commission's objectives. Given two systems with identical characteristics except one serves "n" channels and the other "n+1" channels, the price per channel difference in the benchmark presumptively reflects this price difference correctly. When a single system with per channel rates established by the benchmark goes from "n" to "n+1" channels or the reverse there is nothing that changes in terms of what price difference is reasonable. In both cases the price difference in the benchmark reflects the price difference of competitive cable systems offering differing numbers of channels and should serve to determine the increase or decrease for regulated systems that are changing the number of channels offered. All regulated cable operators are given the same incentives or disincentives regarding the addition or deletion of channels as exists for competitive systems.

The method is also justified from an economic theory standpoint by examining what the benchmark measures. Theory says the regulatory objective should be to set prices near LRMC to protect consumers, encourage efficiency, and compensate cable owners.[10] The benchmark measures the observed price which reflects long run average cost (LRAC) of competitive cable systems on a per channel basis. Under competition, LRAC is at or near LRMC. Therefore, the Commission can use observed

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[10] Pricing at or near LRMC is desirable whether regulation is based on traditional cost-of-service or a form of price cap index.

competitive price as a proxy for LRMC. That is, the per channel differential of the benchmark is a good proxy of the LRMC of adding or deleting channels.

The other methods would not reflect LRMC of the competitive systems. The second method also uses the benchmark, replacing the current allowed rate with the benchmark rate for a system with the new number of channels. This would cause systems whose current rates are above the benchmark to decrease rates when adding channels. Similarly, it would permit those below the benchmark to come up to the benchmark when expanding channels. While this movement may be desirable because the benchmark is reasonable in itself, the Commission has correctly identified the problem that arises with regard to changes in the number of channels using this method. It sets up an unusual and undesirable set of incentives. Systems below the benchmark are given rewards greater than necessary, greater than LRMC, for adding channels, while those above the benchmark are given insufficient compensation, below LRMC, for adding channels to the basic or enhanced tier. GTE concurs in the Commission's decision[11] to reject this method for changing rates due to changes in the number of channels.

The third method, tentatively adopted, would base the rate change permitted on the current per channel price less the cost of programming, adjusted for the proportional change in the benchmark rate for systems of that many channels. The Commission believes it is a benefit to keep the proportions between approved rates and the benchmark rate constant, reflecting the same proportionate economies of scale as in the benchmark.[12] The Commission further describes the method by which it will

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[11] *Third NPRM* at paragraph 138.

[12] Id. at paragraph 140.

allow the change in programming costs associated with the addition or deletion of channels to be flowed through without double counting.[13]

This third method should be rejected as well as the second. It creates even more unusual and undesirable incentives and stands to undermine the Commission's entire system of rate regulation. This method attempts to preserve the relationship of something akin to average fixed cost associated with each channel, based upon the initial relationship of each system's rate per channel to the benchmark. Under this method, the rate change allowed would have two components, the full cost of programming for that channel plus an amount of other costs based upon the original relationship of the system's rate and the benchmark. This appears to attempt to capture the individual firm's average cost of plant, labor and other non-programming costs on a per channel rate. The Commission finds this necessary to try to maintain the scale economies at the time of the imposition of regulation.[14] This assumed benefit is a wrong assumption. There may have been some cable systems that were able to reap greater than average economies and therefore had prices below the benchmark. Since these rates were chosen by cable operators whose systems operated without either competition or regulation they were rightly presumed to be compensatory.[15] However, it is not reasonable to presume that these cable systems will continue to outperform other similarly structured systems as channels are added. Rather, the competitive benchmark measure reflecting LRMC should be used. To do otherwise is

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[13] Id. at paragraph 142.

[14] *Id.* at paragraph 140.

[15] *Rate Regulation Order*, paragraph 205; *First Reconsideration Order*, paragraph 9.

to set at least a part of the rate determination scheme (i.e., the regulatory scheme) as a function of the behavior of the individual firm rather than on the external yardstick.[16]

The direct flow-through of the programming costs is also inconsistent with the use of external targets and should be eliminated. There is no reason to expect that future programming cost will increase more than current programming cost (the benchmark) adjusted for the price cap. The benchmark measure reflects the LRMC of programming and is the basis by which rates should be adjusted when the number of channels is changed. The logic exhibited in the Commission's *Third NPRM* at paragraph 140 seems to try to resolve issues from a cost of service perspective rather than within the price cap model. The objective in price caps is not to set rates based upon the costs of the firm under consideration but based upon the target that has been established externally.

The Commission's discussion of the three alternative methods indicates more concern over whether it correctly set the initial rates in relation to the benchmark than over the correct way of adjusting rates for changes in the number of channels. The fact that a cable system is currently priced above or below the benchmark is not an issue that should be "corrected" through the pricing methodology applied to the addition or deletion of channels. Rather, if the Commission believes that the rate for basic or enhanced basic is too high or too low, it should address the problem head on. The solution is to refine the benchmark regressions and use the new results to reset the benchmark,[17] and then use the price per channel differential to adjust for changes in the number of channels.

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[16] See GTE Appendix at pages 3-8, *Cost-of-Service NPRM,* for a thorough discussion and demonstration of the importance of using external yardsticks or target in the price cap scheme.

[17] GTE Comments at pages 14-15, *Cost-of-Service NPRM.*

III. Cable operators should not be permitted to raise rates to the benchmark for system upgrades completed prior to regulation.

The Commission requests comment on whether cable operators that completed system upgrades shortly before regulation was imposed should be allowed to raise rates to the benchmark.[18] This question again raises the issue of the establishment of the benchmarks themselves. If a system now subject to regulation was charging a price below the benchmark for a similarly sized system subject to competition, the presumption must be that the first system has some characteristic that makes its costs lower. The salient question then is whether that characteristic is the physical plant? The benchmark analysis as it stands does not indicate how the rate would be affected by the upgrade. The Commission has held that there is a presumption that the initial rate the cable operator charged covered its system costs, but this does not provide an answer whether, when the cable operator upgrades system facilities and adds channels, thereby increasing revenues, the operator should be allowed to increase rates only by the difference in the benchmark at "n" and "n+a" or also to recapture the amount by which its rate prior to upgrade was below the benchmark. Given the presumption that the rate prior to regulation covered cost and using the GTE proposal outlined above that increases total rates by the LRMC of each additional channel, the system operator has a reasonable means of recovering the costs of upgrade. This method is consistent with the overall regulatory scheme. Without the restatement of the benchmark analysis to determine how upgrades affect price, however, the Commission should not allow this recapture. Allowing recapture may mean rates above cost since the causation of the cost difference is unknown and is not necessarily due to "old" plant. It may be a cost factor unchanged by the upgrade. In any event, if the price caps do not properly compensate for increases caused by upgrading, the operator does have the option of filing for an increase based upon cost-of-service. There is no

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[18] *Third NPRM* at paragraph 145.

evidence that such cost-of-service showings are going to be too numerous or too burdensome.

If the Commission fears that the benchmark did not adequately capture the fundamental cost causation factors, then it should refine the benchmark, not try to correct for any limitations by adding "escape valves." There can be no doubt that if the Commissions' preferred scheme of benchmarks controlled by price caps is to work, then that scheme must be the one that constrains the behavior of the cable operators. Every time a means of avoiding the constraint of the basic regulatory scheme is added, its effectiveness is diluted. The Commission has made a fundamental choice between the benchmark/price cap scheme and another regulatory model. It must not be continually devolving to cost-of-service techniques when it questions if it got the benchmark right. The basic scheme is right. But, as GTE and others have shown it can be improved. First, the benchmark regression analysis should be recast with additional cost causation variables included in the analysis. And, second, the price cap index must include a reasonable external target for productivity. GTE believes that this is best done by using a price index established using the change in the prices of the competitive cable systems.[19]

IV. Cable operators should not be permitted to elect different options for each tier since cost-of-service regulation is only a backstop to benchmark/price cap regulation.

The Commission determined that the *Rate Regulation Order* did not "explicitly" state whether a cable operator can choose the benchmark/price cap for one tier and cost-of-service for the other tier.[20] The Commission seeks comment on its tentative

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[19] GTE Comments at pages 18-19, *Cost-of-Service NPRM*, and Schankerman Attachment hereto.

[20] *Third NPRM* at paragraph 146.

conclusion that "cable operators should be required to elect either the benchmark or the cost-of-service approach for all regulated tiers . . ."[21] since several cable operators have questioned this possibility. It supports this conclusion based upon tier neutrality and to protect consumers from cable operators who might attempt to "game" the system and flow costs between the two regulated tiers.[22]

GTE supports the Commission's tentative conclusion to require uniform selection to protect tier neutrality. As the Commission has reiterated in other dockets, it has already determined that tier neutrality is appropriate to prevent suppression of rates in the basic tier while allowing higher rates in the cable programming services tier.[23]

GTE believes there is also another crucial reason for requiring uniform selection: Cost-of-service is only a backstop for carriers who find that the benchmark rates are not sufficient for their operations. The Commission will permit cost-of-service showings where price caps does not permit recovery of reasonable costs of providing regulated cable service. Since cost-of-service is merely a backstop it should not be employed as an equivalent form of regulation to benchmark/price cap regulation. Unlike the cable operators, GTE believes that uniform selection will reduce the number of cost-of-service showings since both tiers must be operating below a reasonable level for such showings to be invoked.

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21 Id. at paragraph 148.

22 Id. at paragraph 148.

23 *Cost-of-Service NPRM* at paragraph 4, n.7, *Third NPRM* at paragraph 49, *Rate Regulation Order* at 197, n.501.

V. External cost treatment should be permitted for cost of upgrades required by local franchise authorities since they are outside the control of the cable operator.

The Commission is seeking comment on whether to grant external cost treatment for costs of upgrades required by a local franchise authority. It has recognized that in general:

> [t]here is no basis at this time for modifying the benchmark to include an upgrade variable to govern situations where cable operators upgrade systems that either do, or do not, involve changes in the number of channels offered.[24]

GTE agrees that there should not be a general provision of an external cost variable for system upgrades.[25] As the Commission has stated, one of the goals of price caps is to "circumvent the perverse incentives associated with rate of return regulation"[26] which includes a predetermined return on investment. Price caps are intended to provide incentives to the cable operators to reduce cost and operate more efficiently. If, instead, operators are granted external cost treatment the incentives of price caps will nullified.

If specific costs, however, have been mandated by local, state, or federal regulatory agencies price caps should allow external cost treatment. The key to treatment of a cost as external is whether it is within the control of the cable operator or not. If an upgrade is mandated by the local franchise authority, for example, it should therefore be treated an external cost, but only to the degree that the cost would not have been incurred otherwise and not already reflected in the price cap.

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[24] *Third NPRM* at paragraph 153, n. 259.

[25] GTE's Opposition to Petition for Reconsideration at page 14, *Rate Regulation Order.*

[26] *Rate Regulation Order* at paragraph 228.

The Commission is also seeking comments on how adjustment to rates would be determined if mandated upgrades are treated externally.[27] It has proposed two methods: (1) Full cost-of-service showing or (2) permit the local authority requiring the update to determine the manner in which the rates should be adjusted and over what period of time.

GTE favors the second method because the first method is already an option without external cost treatment. Since the local franchise authority has mandated the upgrade it would be appropriate for it to properly reflect the adjustment in rates and determine the time period for the adjustment. This would be consistent with the price cap rules for the LECs where exogenous treatment can be granted for costs outside the LECs control, such as a government mandate so long as not already reflected in the price cap.

GTE has maintained this position before the Commission in its comments in support of United Telephone-Southeast's (United) petition seeking exogenous treatment for the interstate portion of the incremental amortization costs associated with the early changeout of central office switches pursuant to the order of the Tennessee Public Service Commission. United requests this treatment because the costs, imposed by regulatory action, are outside its control and therefore are reasonably classified as exogenous (external) adjustment.[28]

VI. Conclusion

With the affirmation of the adoption benchmark/price cap regulation for cable operators, GTE supports the adoption of option 1 because it follows the

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27 *Third NPRM* at paragraph 154.

28 GTE Comments at page 1, January 15, 1993, United Telephone-Southeast Petition for Waiver of the Commission's Rules to Recover State-Mandated Infrastructure Development Costs (DA 92-1698).

benchmark/price cap approach and is reflective of Long Run Marginal Cost. The allowed maximum increase in price or the minimum required decrease in price will be equal to the difference in the benchmark rates, adjusted for the annual change in the price cap index, calculated with the appropriate parameters for systems of "n" channels and "n+a" channels where "a" is the change in the number of channels offered. GTE believes that cable operators should not be permitted to raise rates to the benchmark for systems upgrades completed prior to regulation. Given the presumption that the rate prior to regulation covered cost and using the GTE proposal that increases total rates by the Long Run Marginal Cost of each additional channel, the system operator has a reasonable means of recovering the costs of upgrade.

Finally, GTE finds that cable operators should not be permitted to elect different options for each tier since cost-of-service regulation is only a backstop to benchmark/price cap regulation. Also that external cost treatment should be permitted for cost of upgrades required by local franchise authorities since they are outside the control of the cable operator.

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September 30, 1993

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Benchmarks and Yardsticks for Cable Regulation

Statement of Dr. Mark Schankerman
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In MM Docket No. 92-266, the Federal Communications Commission provisionally adopted a framework to regulate prices of noncompetitive cable systems in accordance with the mandate in the Cable Television Consumer Protection and Competition Act of 1992 ("Cable Act"). The plan contains four key elements: (i) a benchmark procedure to set initial price levels, (ii) a price cap mechanism to adjust prices over time, (iii) identification of "external costs" eligible for automatic recovery, and (iv) procedures for redress by cable operators under cost of service guidelines.[1] The benchmark procedure and price cap mechanism are the centerpieces of the regulatory framework. In response to issues raised in the Notice of Proposed Rulemaking, I focus in this statement on the design of the price cap mechanism, but also comment on other elements of the plan as they relate to price cap design.

Section 1 briefly reviews the economic and regulatory objectives of price cap regulation for the cable industry, and shows how these objectives shape the appropriate design of the price cap. Section 2 develops the economic foundations for price cap design and summarizes three alternative versions of price caps derived directly from these principles.[2] One version of these price caps has the form which

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1 Implementation of Sections of the Cable Television Consumer Protection and Competition Act of 1992 - Rate Regulation, MM Docket No. 92-266, Report and Order and Further Notice of Proposed Rulemaking ["Order"], FCC 93-177 (released May 3, 1993) at paras. 222, 223, 241 and 258.

2 The technical derivation of these price cap mechanisms is provided in the attached appendix.

the Commission provisionally adopted for the cable industry in MM Docket 92-266 ("provisional price cap"). However, after a review of the limitations and information required to implement each price cap, I recommend a new and much simpler version based directly on the behavior of prices for competitive cable systems ("proposed price cap"). In Section 3, I discuss potential criticisms of the proposed price cap. Section 4 considers how to set the productivity offset (x-factor) for the provisional price cap, in case that formulation is retained by the Commission.

Section 1. Objectives of Cable Price Cap Regulation

The central objectives in designing regulation are to maintain prices for monopoly cable systems at reasonably competitive levels, to minimize the administrative burden and cost of the regulatory process, and to provide the regulated cable operators with economic incentives to operate efficiently and promote productivity growth.

To achieve these objectives, two key principles must govern the price cap design. First, the price cap should compensate the company for the real (inflation-adjusted) costs of providing services. Any price cap that systematically fails to do so would ensure the insolvency of the company. This *compensation principle* implies that regulated cable rates should reflect both the prices the company pays for inputs and any cost savings arising from economies of scale and scope, new technology, and other sources of efficiency improvements.

The compensation principle requires that output prices track unit cost of production. The unit cost varies directly with input prices and inversely with the level of Total Factor Productivity (TFP).[3] Hence, the rate of change in the cable *output price* should reflect rates of change of *input prices* and TFP. It is essential that the productivity adjustment factor for the price cap be based on TFP. All measures of partial productivity (e.g., labor productivity) are inappropriate because they do not reflect changes in the unit cost of production which depend on the utilization of all inputs. If a partial productivity index were used in place of the proper TFP index, the price cap would violate the compensation principle.

The second principle, the *incentive principle*, is that the price cap must provide monopoly cable operators with economic incentives to operate efficiently and undertake cost-reducing investments. The compensation principle requires that the company's own input prices and TFP growth should govern the rate at which its output prices change. In that form, however, the price cap would essentially function as a "cost plus" formula and would provide no incentives to company management to restrain costs or improve productivity performance. In order to generate incentives, the price cap must incorporate some kind of external yardstick both for input price

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3 The level of TFP is a measure of overall technical efficiency. It is defined as the amount of composite output per unit of composite input, using appropriate aggregate (Tornquist) indices of inputs and outputs. The rate of growth of TFP is the difference between the rates of growth of composite output and input, and reflects two main factors: economies of scale and scope and expansion of the underlying production frontier ("technical change"). For given levels of input prices, growth in TFP is equivalent to reductions in the unit cost of production. This equalization holds both for TFP growth due to technical change (shifts in the cost curve) and to economies of scale (expansion along a given, declining unit cost curve). This is why the price cap must depend on the overall rate of growth in TFP, regardless of its source.

changes and TFP growth. The key requirement for a valid yardstick is that it must be unaffected by the operating and investment decisions of the regulated companies. Under this condition, if a regulated cable operator is able to generate TFP growth in excess of the yardstick rate, or keep input price increases below the yardstick rate, the output price growth allowed by the price cap will exceed the level which just compensates the company for changes in its unit cost of production. This implies that the company can increase its rate of return by successfully exceeding the yardsticks built into the price cap. It is precisely this additional reward that incents efficient behavior. The mechanism also imposes a symmetric penalty for inefficient operation.

It is important to emphasize that a price cap mechanism with appropriate yardsticks for input price and TFP growth obviates the need for any direct regulatory supervision or management of operational and capital budgeting decisions of cable operators. This is the major advantage of price cap regulation, compared to the traditional cost of service approach, and it was the primary reason the Commission adopted price caps for cable.[4] It is very important that the Commission preserve this advantage by strictly limiting the use of cost of service appeals. The Commission provides for cost of service reviews as a *safeguard* to ensure that the primary rate setting mechanisms (the benchmark and price cap) do not subject individual cable operators to such low earnings over a prolonged period that their ability to raise financial capital and provide service are seriously impaired.[5] However, the

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4 MM 92-266 Order at para. 228.

5 Id. at paras. 262 and 401.

Commission must not allow this safeguard to supersede the price cap mechanism or become a convenient outlet for poorly managed cable systems.

To preserve efficiency incentives and avoid regulatory micromanagement, I recommend that the Commission adopt an "earnings floor" adjustment mechanism similar to but different in key respects from the adjustment it employs for price cap regulation of Local Exchange Carriers ("LECs").[6] This earnings floor should be designed to provide a cable operator the opportunity for a cost of service based price adjustment in the case where the operator can demonstrate prolonged substandard earnings.[7] Under the mechanism the opportunity to seek such relief would be triggered when a cable system's rate of return falls below a specified level for a period of time (e.g., below the trigger level for more than two or three consecutive years).[8] In order to keep regulation manageable and preserve incentives, the Commission needs to incorporate two features into this mechanism. First, the Commission should set this trigger rate of return at the low end of the range of reasonableness for the cost of

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6 Policy and Rules Concerning Rates for Dominant Carriers, Second Report and Order, 5 FCC Rcd 6786, 6802, 6804, CC Docket No. 87-313 (1990) ("Price Caps Order").

7 Opportunity for cost-of-service showing may, as a legal matter, be required to set the *initial* rate, but once the price cap mechanism begins to function for price *adjustment*, the use of cost-of-service demonstrations should be limited as discussed. To ensure that this relief does not permanently raise the price level, an equivalent reduction in the price cap must be made in a subsequent year. This is necessary so that the company does not permanently benefit from the initial inefficiency which triggered the adjustment.

8 The California incentive regulation plan adopted in 1989 (CPUC Decision 89-10-31) incorporates provisions for cost of service review in extreme cases. Given the number of regulated cable systems, it is very important that use of such provisions be highly restricted.

capital and for administrative tractability, the Commission should set a single (uniform) trigger for all cable operators.[9] Second, the cable operator must bear the burden of proof in the cost of service proceedings and the appropriate reasonableness and prudency tests must be applied. This is the policy the Commission adopted in the LEC price cap proceeding.[10] I believe that this mechanism will adequately safeguard cable operators under price cap regulation.

The use of yardsticks is central to price cap regulation. It is precisely the decoupling of monopoly cable rates from monopoly cable costs that generates incentives for efficient behavior. The resulting cost savings are referred to as technical efficiency gains. As always in economics, however, there is some "price" to be paid for this gain. Whenever output prices deviate from (marginal) costs there is an allocative distortion because consumers are faced with price signals that do not fully reflect the resource cost of supplying the marginal unit. Price cap regulation essentially represents a tradeoff between technical efficiency gains and allocative efficiency losses.

The key to a well-designed price cap is to make this tradeoff as favorable as possible. For cable regulation this requires two elements: (i) a careful benchmark procedure to set initial prices for monopoly systems reasonably close to their unit costs in order to minimize allocative distortion, and (ii) selection of a suitable yardstick

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9 In principle the Commission could develop a set of triggers, differentiated according to easily observed characteristics of cable systems that affect their cost of capital (e.g. debt-equity ratios). I think this alternative will be difficult to develop and implement in practice, and may itself induce cable operators to adjust those characteristics strategically.

10 Price Caps Order, 5 FCC Rcd at 6804, 6806-6807.

for input prices and TFP to generate maximum (achievable) technical efficiency gains.[11] In theory the most accurate way to initialize prices would be to conduct a cost of service hearing for each regulated cable system. In practice this is impossible because the number of cable systems is too large and there are no common accounting standards in place.[12] The benchmark procedure proposed by the Commission can serve as a practical alternative, but in my view the econometric analysis needs to incorporate a more complete list of *cost-determining* characteristics of cable systems if it is to provide a meaningful starting point for the price cap. These should include key demographic features of the franchise area (e.g., population density) and technological characteristics of the cable system. A full analysis of this issue is beyond the scope of this statement, but it is important that the benchmark model be strengthened. The reason is that there is a basic tradeoff in designing this regulatory framework between the quality and completeness of the benchmark model on the one hand, and the reliance on cost of service appeals on the other. If the benchmark procedure is crude, cable operators will be far more likely to apply for relief under cost of service procedures which would destroy both efficiency incentives and administrative simplicity. I have proposed that the Commission adopt an earnings floor mechanism which would severely limit the use of cost of service appeals. To be effective, this proposal requires improvement in the benchmark model to set initial prices.

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11 If the yardstick is not stringent enough, technical efficiency incentives will be weakened and any initial allocative inefficiency (deviations between prices and marginal cost) will grow over time.

12 *But see* note 7, *supra*.